

RANCHO SANTA ANA BOTANIC GARDEN
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SEQUOIA SEMPERVIRENS
REDWOOD

1941

RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

SEQUOIA SEMPERVIRENS
REDWOOD

Taxodiaceae

Taxodium Family

Tallest of all known trees, attaining a maximum height of 340 ft.; usually with a narrow crown, branches horizontal or gracefully somewhat pendulous. Trunk massive, greatly swollen at the ground and buttressed, often nearly 20 ft. in diam. at 10 ft. above ground, then gradually tapering, often clear of branches for 100 ft.; bark dark brown, fibrous, divided into large longitudinal ridges, sometimes 1-2 ft. thick. Leaves dark, rich glossy green or slightly bluish above, lighter beneath, of two sorts on adult trees. The common or conspicuous leaves alternate, flattened, decurrent, $\frac{1}{2}$ - $\frac{3}{4}$ in. long, $\frac{1}{8}$ in. wide, tipped with an abrupt dull point, forming flattened sprays, persisting for 3-4 yrs. Leaves of leading shoots spirally arranged, scale-like, seldom over $\frac{1}{4}$ in. long, eventually becoming brown and remaining on the branches for several seasons after they die. Staminate and pistillate cones produced on the same tree. Staminate cones about $\frac{1}{8}$ in. long solitary on terminal branchlets, surrounded by numerous bud scales, borne on a slender stalk $\frac{1}{8}$ in. long, composed of about 12 anthers. Pistillate cones deflexed, solitary at tips of short branchlets, composed of about 20 scales, producing a cone about 1 in. long by $\frac{1}{2}$ in. thick which matures the first autumn; each ovulate scale with a peltate terminal portion bearing an inconspicuous mucro or prickle; ovules 3-6 to each scale. Seeds rich brown, flattened, oblong, bearing a wing about as broad as the body, the whole about $\frac{3}{16}$ in. long. Cotyledons 2; in germination these flattened, $\frac{3}{4}$ -1 in. long, $\frac{1}{8}$ in. wide, followed by spirally arranged flattened juvenile leaves, about $\frac{1}{2}$ in. long and $\frac{1}{8}$ in. wide.

The genus *Sequoia*, erected by Endlicher in 1847, (the name in honor of Sequoyah, a chief of the Cherokee Indians, who devised an alphabet for his tribe) was once widespread over the northern hemisphere, but is now limited to two living species.

Sequoia sempervirens (the specific name meaning evergreen) was described in 1824 by Lambert, English botanist, who with hesitancy included it in the genus *Taxodium*. The original specimens had been collected by Menzies on Capt. Vancouver's Voyage, probably while on a trip from Monterey to the Santa Cruz Mts. Other names applied to this tree were: *Schubertia sempervirens* by Spach in 1842; *Sequoia gigantea* by Endlicher in 1847; and *Gigantabies taxifolia* by Senelis in 1866.

The name Redwood is an appropriate English name for *Sequoia sempervirens*. Spanish-Californians called it Palo Colorado, which is literally red tree. Its distribution is in a narrow coastal belt from Salmon Creek, Monterey Co., northward along the California coast to Curry Co., southern Oregon. In a few localities it extends inland for nearly 40 miles, but most of its individuals are in areas within 20 miles of the coast. Local limits of distribution closely parallel the coastal fog belt. It receives an average rainfall of from 20-100 in. per year, mostly dur-

ing the winter months. Additional water in truly appreciable quantities actually reaches the ground as the result of condensation of the summer fogs on the foliage. The Redwood ranges from near sea level to about 2500 ft., while temperatures average 50-60 degrees, rarely dropping to 20 degrees or rising to 100 degrees. It grows under various conditions of soils and exposures, but attains its best development in narrow canyons and flats where soils are rich, deep, and capable of holding large amounts of water.

The Redwood is one of California's most important lumber trees. Its wood is light, highly durable and easily worked. Redwood siding, sills, finish, shakes, shingles, grape stakes, pickets and rails are only a few important products. The bark is now shredded and used for insulation. Modern methods of selective logging insure continued sources of Redwood trees for lumber, but early day practices gutted great areas, and it is probably now too late to restore them under any economical plan of reforestation. Some second growth forests, largely of stump sprouts, now have trees with trunks over 2 ft. in diameter.

Redwoods have been cultivated for nearly 100 years. In California the species has long been planted in coastal regions and some trees are over 100 ft. high. Trees of over 50 ft. are common away from the coast, as at Sacramento, Pasadena, and Riverside. Since Redwoods produce rather narrow crowns they can be planted in comparatively small areas. They require abundant moisture at all seasons, otherwise the foliage may burn in dry, hot periods.

Propagation of *Sequoia sempervirens* is by seeds or cuttings. The latter method is sometimes used to perpetuate horticultural varieties or to produce a limited number of trees when seeds are not available. Cuttings taken in the late fall should be well rooted by spring. Seeds (usually 15-20 percent fertile) should be planted in the fall or early spring. Seedlings are easily handled and are generally grown in tin containers. Field-grown, balled or boxed specimens are splendid, but more difficult and expensive to handle. Under cultivation at the Garden we have produced trees over 25 ft. high in 12 yrs. from seed. Much younger plantings made in more suitable locations are growing at a much faster rate, and are likely to eventually surpass the others.

Sequoia sempervirens should not be confused with *S. gigantea*, the Big Tree, which is restricted to the Sierra Nevada. It attains greater age, has a larger trunk, much larger cones, leaves all scale-like, and does not stump sprout. Buchholz (Amer. Journ. Bot. **26**: 535-538. 1939) proposed a new generic name *Sequoiadendron* for the Big Tree. Rehder (Man. Cult. Trees and Shrubs ed. 2. 48. 1940) accepted the new genus and others are also likely to do so.

Let him who finds himself beneath thousand year old Redwoods rising majestically into the heavens, tread among them with a spirit of reverence, for he is in a living temple, the pillars of which are mighty monarchs, masterpieces of the Creator's hand.

CARL B. WOLF.

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

"THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION
HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

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